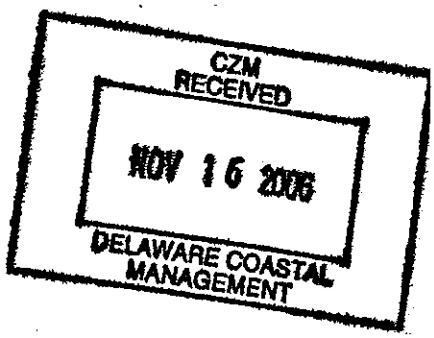
Restoration Ecological Services

311 N. Aurora St.
Easton, MD 21601
Phone/Fax 410-820-7465

November 14, 2006

RES#0014-00001



Ms Sarah W. Cooksey
Delaware DNREC- Coastal Management Program
Division of Soil and Water Conservation
89 Kings Highway
Dover, DE 19901

Mr. James T. Chaconas
Delaware DNREC- Division of Water Resources
Wetlands & Subaqueous Lands Section
89 Kings Highway
Dover, DE 19901

RE: Marina permit application- Swain's Wharf Marina
Misipillion River and Cedar Creek
Sussex County, DE

Dear Ms Cooksey and Mr Chaconas:

At our August 11, 2006 meeting, we were given a list of nine additional items that needed to be addressed by the applicant. I am providing a response to those items in the order they are on the sheet provided (copy attached). Since this list included topics also requested by the Coastal Management Program, I am sending this letter as a response to both agencies.

1. Flood zone with velocity hazard. I have talked to the Groundwater Protection Branch and was told that permits for permanent holding tanks have been discontinued. However, since the site was the location of an existing marina and an existing grandfathered septic system exists, a permanent holding tank could be obtained by first being denied approval for an on-site disposal system (through submitting a soil evaluation) and then applying for a variance. The holding tank would be considered an improvement on existing conditions. A letter from Jim Cassidy of the Groundwater Protection Branch outlining the process is attached. In the meantime, it was our understanding from the meeting that portable toilets with a holding tank such as used at the Bowers Beach boat ramp will be acceptable for the initial season or two of operation. These portable toilets would have an attached holding tank for marine wastes such as used by DNREC at the Bowers Beach boat ramp. A copy of a proposed service with A-1 Hauling is attached.

2. Vessel sewage pumpout. The applicant will obtain a portable pumpout unit such as shown on the attached sheets, with plans to convert to an installed system once demand indicates it is needed and a permanent holding tank is installed.

3. Compliance with FEMA regulations. I have reviewed both FEMA and Sussex County regulations regarding flood hazards. The County regulations take the minimum FEMA requirements and add somewhat to them. Essentially any construction within the wave hazard zone requires the bottom of the lowest horizontal structural member of a V zone building be elevated 1 foot or more above the base flood elevation. Other requirements are certain building practices be followed including adequate anchoring of structures. These items have to adhered to in order to obtain the required certificates for insurance and occupancy. The most recent map available from FEMA is FIRM 10005C0055J, revised 1/6/2005, which shows the property as being Zone VE (EL 11). Therefore, the bottom of the lowest horizontal structural member would need to be at EL 12. There is some discrepancy between the FIRM and the current online county map. The county online map only shows the northern edge of the site, which is tide marsh, as VE. The remainder of the site is AE. The elevation for AE is EL 9. I have assumed the most current map to follow is the above referenced FEMA map. The There is nothing about the site that would prevent the applicant from meeting FEMA and County requirements. All permanent structures such as offices, caretakers house and bathrooms would need to be constructed on pilings and comply with the required building materials and practices.

4. Mean high and mean low water. We have obtained elevation/sounding data along the opposite shore of Cedar Creek and determined a mean low water line for that shore. A mean high water line was not practicable as the opposite shore becomes tidal marsh dominated by smooth cordgrass behind a narrow beach area. Elevations in the marsh where below the mean high water elevation. Using the MLW information we have added an additional line on the plans showing a distance 20% of the channel width from the project shoreline (MLW line). Additionally, I have converted all water depths and tidal elevations to the same datum used by the Corps of Engineers for the channel surveys since the majority of the data was based on this datum. This is the Philadelphia Corps of Engineers mean lower low water (MLLW) datum. Following the Corps format, all of these elevations are shown as feet below this MLLW datum. Bottom elevations below the datum are positive numbers and elevations above the datum are negative numbers. The upland site elevations are still based on the NGVD 1988 datum. The Corps MLLW datum is 2.92 feet below the NGVD 88 datum.

5. Location of wastewater handling facilities. The location of wastewater handling facilities is shown on the revised plans.

6. Proximity of navigation channel in Mispillion River. As shown on the site plan, the federally maintained navigation channel in the Mispillion River is 25 feet from the nearest proposed outside piling. As of the last known survey in March, 2005, there was more than adequate water depth for navigation throughout the channel and even north of the channel.

7. State regulated wetlands. The only state regulated wetlands on the property are located on the south side of the site between the adjacent Gierschick property and Cedar Creek. This wetland is

dominated by short form *Spartina alterniflora*. The mapped boundary has been added to the revised plans.

8. Correct location of Auman and Evans properties. I have reviewed property plats and deeds for the Swain property, Evans and Auman properties. The Auman plat is the same that was submitted to DNREC with his pier permit application. While there are some discrepancies in the plats, they vary by a few feet, not the magnitude shown on the county tax maps. The location of these two properties match the descriptions in the deeds. The boundaries of the Swain property were established via a court order in 1974. We believe the approved survey of the property locations is shown on the site plan. In our experience, the property boundaries shown on tax maps are frequently inaccurate. The current tax map scales the road frontage of the Swain property between the Evans and Guierschick properties as about 342 feet, even though the map notation, the survey plat and deed description all put the length at 308.45 feet. The outline of the Auman property does not even match the plat submitted with the permit application or the deed description. Although the property boundaries differ from that shown on the current Sussex County tax maps, the property survey is the legal representation of the property boundaries.

9. Water supply. There is currently an existing well on the property which would be sufficient for the limited amount of water initially needed. Once the permanent holding tank is approved, the applicant will provide upgraded bathroom facilities with sinks and the well will be replaced. The existing well is located north of the present house structure and was installed prior to well permits being required. An above ground well head was not found, but an approximate location is shown on the plans, based on the owners description.

If you have any questions, please call at 410-820-7465.

Sincerely,

David L. Hardin

David L. Hardin

projects\0014-0001\state permit\response to list of additional information 10_9_06

cc: Kevin Faust, USACE
Walt Swain

STATE OF DELAWARE
DEPARTMENT OF NATURAL RESOURCES
& ENVIRONMENTAL CONTROL
DIVISION OF WATER RESOURCES
422 N. DUPONT HIGHWAY, SUITE 1
GEORGETOWN, DELAWARE 19947

TELEPHONE: (302) 856-4561
FAX NO.: (302) 856-5088

October 30, 2006

Mr. Dave Hardin
Restoration Ecological Services
311 Aurora Street
Easton, MD 21601

RE: Holding Tank Procedures for Swain's Warf Marina
Sussex County Tax Map # 3-30-5-10

Dear Mr. Hardin

I am writing as a follow up to our telephone conversation discussing the possibility of installing a holding tank as a means on wastewater disposal for the proposed marina. As this is an existing facility, even if in disrepair, the possibility of installing a permanent holding tank is a distinct possibility. The procedures are as follows.

1) Have a site evaluation performed by a licensed Class D Soil Scientist. The soil scientist will determine the system type to be installed on the property. (Be sure to let the soil scientist know of the flooding potential of the property.)
2) Submit the site evaluation to the Department for review and approval.
3) After approval, the site evaluation should go to a Class C Design Engineer.
4) Upon approval of the permit application, contact a Class E contractor for installation.

These are the basic steps in the process. As there are sometimes exceptions to the rules, if you run into any problems along your way, please don't hesitate to contact me at (302) 856-4561

Sincerely,

James Cassidy
Program Manager I
Ground Water Discharges Section

A-1 SANITATION SERVICE INC.
1009 River Road • New Castle, DE 19720 • (302) 322-1074

VIA FAX TRANSMISSION

September 21, 2006

Mr. Pete Russo
Swain's Wharf Marina

RE: Sanitation

Dear Pete:

It was a pleasure speaking with you regarding your upcoming project at Swains' Wharf Marina in Slaughter Beach, Delaware.

A-1 Sanitation Service will provide you with portable restroom units for use by patrons of the marina. They will be serviced once a week, however, we suggest during the busy summer season, the service be increased to twice a week.

It is my understanding that you will have a CVA dump station installed on the premises. A-1 Sanitation Service will be happy to provide you with a Holding Tank Maintenance Agreement. A-1 Sanitation Service will be responsible for pumping the contents of and disposing of same while the dumpstation is in use. Our technicians are on call 24 hours a day. Once you have determined what size tank will be installed, we will prepare the Holding Tank Maintenance Agreement for your signature.

If you need additional information, please feel free to contact me.

Sincerely,

Steven A. Smiertka
Vice President

Edson PUMP OUT CADDY

25 Gallon Waste Collection Cart For Holding Tank Pump Outs

Performance Features

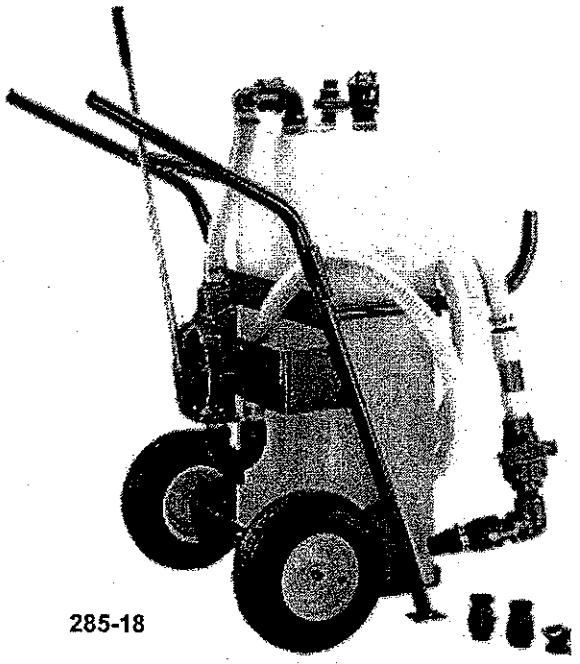
- Manual Pump For Secure Self Service Operations
- Easy Fill & Off Load Operation
- Pump Out Rates To 15 GPM
- Self Priming Suction from Heights Up To 15 ft (7.6m)
- Easily Moved Around On Wide 12" Pneumatic Tires

Design Features

- Easy To Use-Low Maintenance
- Integral Hose Rack
- Vertical Mount Diaphragm Pump
- Welded Aluminum Cart With Stainless Axle & Pneumatic Tires
- All Materials Rated For Marine Use
- Stock 25 Gallon Poly Tank
- Quick Clamp Plumbing & Hose Assemblies

Edson's Manual Diaphragm Pump Out Caddy is a convenient, easy to use waste collection system that is shipped complete. Designed for small collection jobs, the cart with manual 18 gallon per minute pump and 25 gallon tank makes short work of emptying boat holding tanks. It is especially safe for self service facilities and a very economical tool for emptying tanks of boats being pulled for service or storage.

The pump out caddy uses the Edson unique plumbing and hose assemblies that allows for the tank to be safely emptied by the pump while virtually eliminating the chance of accidental spillage. The pump and hose assemblies are available as separate items for those who want to use them with their own tanks and carts, trailers or boats.



285-18

Edson Manual Pump Out Caddy

PUMP PERFORMANCE: Static Head - Suction 18 ft / 5.48m , Discharge - 18 ft / 5.48m ● Dry Suction Lift -15 ft / 4.57m ● Max Volume - 18 GPM / 68.1 LPM at 5 ft Suction Lift and 0 Discharge at 46 Strokes per Min. w/ 1.5" Hose

PUMP CONSTRUCTION: Anodized Aluminum Pump ● Nitrile Valves Diaphragm and ● Stainless Steel Hardware ● Vertical Mount, Lever Action

PUMP OUT HOSE ASSEMBLY: 1 1/2" Polyflex Hose ● 90° Ball Valve ● Sight Glass/Check Valve ● Quick Clamp Adapter ● Complete Set of Deck Adapters ● 25 ft Length

COLLECTION TANK: 25 Gal. Rotational Molded High Density Polyethylene, Waste Tank ● FNPT Through Tank Fittings,One 1/2", One 1 1/2" and One 2" Through Tank Fitting ● 4" Access Port With Threaded Cap

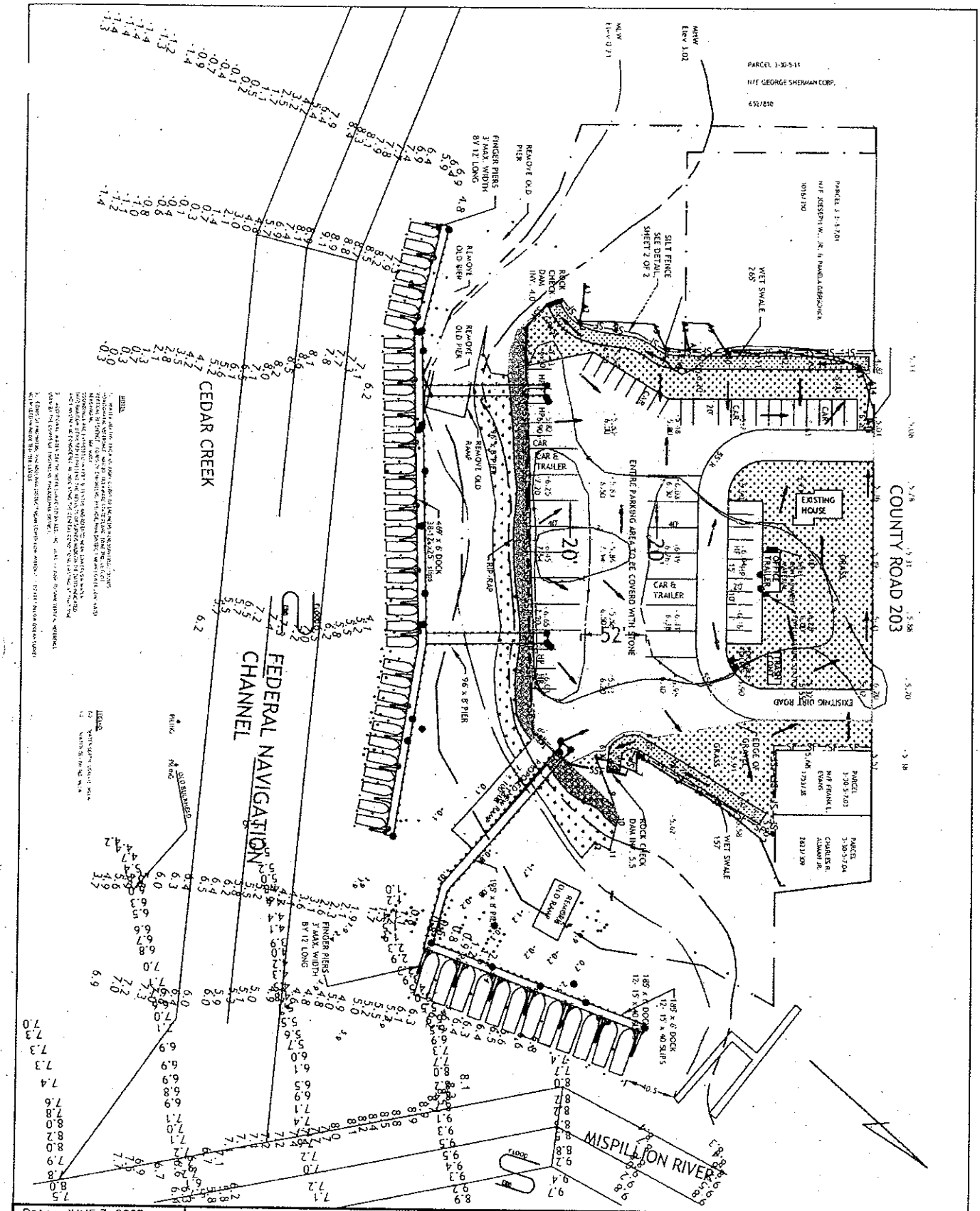
CART: Welded Aluminum ● 12" Pneumatic Tires ● Baked On Polyurethane Coating ● 2 Wheel Cart Design

ORDERING INFORMATION

DESCRIPTION *See Price List For Other Models*	WEIGHT (Lbs/Kgs)	ORDER NO.
Pump Out Caddy	40 / 18	285-18

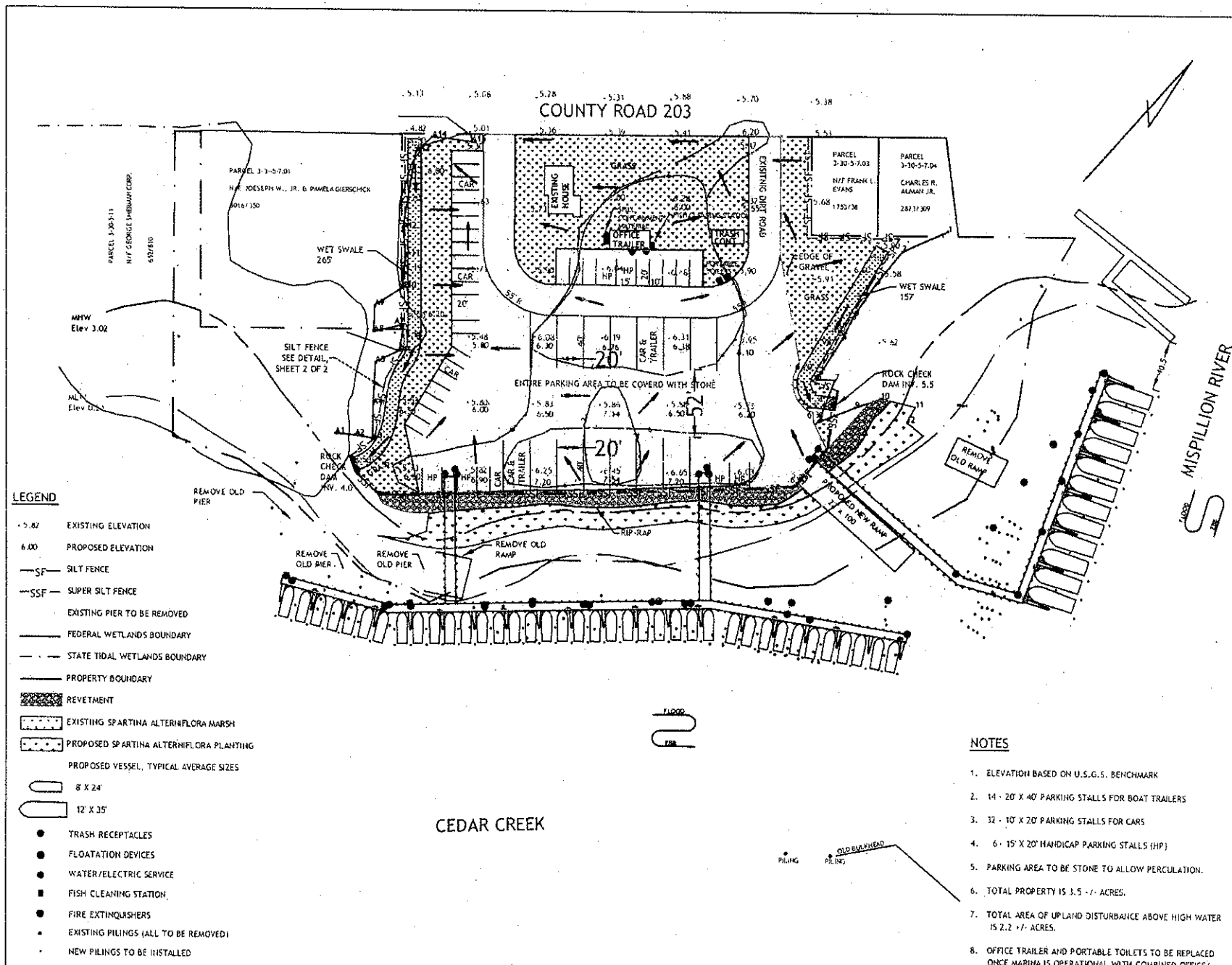
www.edsonpumpout.com

Edson INTERNATIONAL
146 Duchaine Blvd., New Bedford, MA 02745-1292 Tel. 888-351-7782 Fax 508-995-5021
E-Mail pumpout@edsonintl.com



Date: JUNE 7, 2005	PROPOSED MARINA REVISION – BATHYMETRY
Scale: 1" = 100'	SWAIN MARINA, TAX MAP 3–30–5–10
Proj.No.: 408B001	SLAUGHTERS BEACH, SUSSEX COUNTY, DELAWARE
Drawing No.: FIGURE 5	

RES RESTORATION ECOLOGICAL SERVICES, INC.
311 N. AURORA ST
EASTON, MD 21601
PHONE 410-820-7465



LEGEND

- 5.82 EXISTING ELEVATION
- 6.00 PROPOSED ELEVATION
- —SF— SILT FENCE
- —SSF— SUPER SILT FENCE
- EXISTING PIER TO BE REMOVED
- FEDERAL WETLANDS BOUNDARY
- STATE TIDAL WETLANDS BOUNDARY
- PROPERTY BOUNDARY
- REVETMENT
- EXISTING SPARTINA ALTERNIFLORA MARSH
- PROPOSED SPARTINA ALTERNIFLORA PLANTING

PROPOSED VESSEL, TYPICAL AVERAGE SIZES

- 8' X 24'
- 12' X 35'
- TRASH RECEPTACLES
- FLOATATION DEVICES
- WATER/ELECTRIC SERVICE
- FISH CLEANING STATION
- FIRE EXTINQUISHERS
- EXISTING PILINGS (ALL TO BE REMOVED)
- NEW PILINGS TO BE INSTALLED

NOTES

1. ELEVATION BASED ON U.S.G.S. BENCHMARK
2. 14 - 20' X 40' PARKING STALLS FOR BOAT TRAILERS
3. 32 - 10' X 20' PARKING STALLS FOR CARS
4. 6 - 15' X 20' HANDICAP PARKING STALLS (HP)
5. PARKING AREA TO BE STONE TO ALLOW PERCULATION.
6. TOTAL PROPERTY IS 3.5 +/- ACRES.
7. TOTAL AREA OF UPLAND DISTURBANCE ABOVE HIGH WATER IS 2.2 +/- ACRES.
8. OFFICE TRAILER AND PORTABLE TOILETS TO BE REPLACED ONCE MARINA IS OPERATIONAL WITH COMBINED OFFICE/ BATHROOM/FISHING CLEANING FACILITIES ELEVATED ABOVE FLOOD ELEVATION.

RES RESTORATION ECOLOGICAL SERVICES, INC.
811 N. AURORA ST
EASTON, MD 21601
PHONE 410-820-7465

PROPOSED MARINA REVISION
SWAIN MARINA, TAX MAP 3-30-5-10
SLAUGHTERS BEACH, SUSSEX COUNTY, DELAWARE

Date: JUNE 7, 2006
Scale: 1" = 100'
Proj.No.: 0014-0001
Drawing No.: FIGURE 1